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Purple Loosestrife in South Dakota: "Threatening Our Aquatic Resources

Cooperative Extension Service
South Dakota State University

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"Threatening Our Aquatic Resources"

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This weed is an aggressive spreader due to its prolific seed production and ability to sprout from broken off plant parts. Plants can produce 300,000 to 2,700,000 seeds.

Purple loosestrife (*Lythrum salicaria*) and (*Lythrum virgatum*) is a semi-aquatic weed that is gaining a foothold in South Dakota. Infestations have attracted considerable attention in recent years. It is spreading steadily westward and over time has infested thousands of acres throughout the northeast and midwestern United States.

This pest threatens South Dakota. Infestations have been documented within the state and in adjacent states. Recently, the expansion in the range of purple loosestrife has coincided with the commercial distribution of this weed for horticultural purposes and regional propagation for bee forage.

Characteristics
The showy spike of rose-purple flowers the purple loosestrife displays in mid- to late-summer is the most prevalent characteristic. The flowers consist of 5 to 7 petals, the leaves vary usually opposite, linear-shaped with smooth edges. It has a 4-sided stem that appears woody at the base of large specimens and a woody taproot with a fibrous root system that forms a dense mat of growth. The plant may be 3 to 10 feet tall, flowering from July to early September.

Spread
The normal root stock of established purple loosestrife covers a base diameter of approximately one and one-half feet. Each root stock can produce 30 to 50 herbaceous stems annually.

The main dispersion of purple loosestrife occurs via moving water. Seed also can be moved by wind and in mud clinging to wildlife, clothing, boots, equipment, and vehicles. Seed longevity averages three to five years.

Purple loosestrife is not limited to, but occurs widely in wet habitats, such as marshes, bogs, wet prairies, lake shores, and floodplain pastures. It also occurs in roadside ditches, on river banks, and at the edges of reservoirs.

Environmental impact

The destruction of wetland and riparian habitat is the major impact of purple loosestrife. Habitat at wetland edge areas is most valuable for waterfowl, providing food, cover, and nesting sites. Invasion by purple loosestrife eliminates these sites.

Economic impact
The latest estimate is that 475,000 acres of wetlands are lost annually in the U.S. to this pest. It is reported that an annual loss of nearly $46 million is occurring in the U.S. due to the devaluation of freshwater real estate, the reduction of populations of muskrats and migratory waterfowl, and the destruction of recreational areas.

The reduced capacity of quality floodplain pastures and meadows is real, as this weed is much less palatable to livestock than the forages it displaces. Currently, agricultural damages in the U.S. are estimated at $2.6 million annually.

Control
The South Dakota Weed and Pest Control Commission has declared purple loosestrife a statewide noxious weed. Purple loosestrife is also under quarantine in South Dakota, making the sale of Lythrum illegal.

Because this weed has not become well established in many areas, preventing the spread of purple loosestrife and eliminating it from invaded areas is important.

Control strategies for small purple loosestrife populations should consist of aggressive eradication of existing plants. Most small populations can be effectively removed by hand, either by pulling or by digging. All weeds must be then removed, dried, and burned, as viable plant parts sprout and grow.

Control strategies for larger populations of purple loosestrife generally are limited to spray applications. Selective application techniques are important, as broadcast spraying of nonselective herbicides kills all the vegetation and may increase purple loosestrife density because of seed germination following the removal of competing native vegetation.

Why eliminate ornamental plantings?
Research at the University of Minnesota documents that many ornamental varieties of purple loosestrife are indeed self-incompatible, rarely producing live seed when isolated in populations of the same variety. However, this research also reveals that such self-incompatibility does not hold when different varieties of purple loosestrife cross with each other or with wild purple loosestrife. The result of this type of cross pollination produces a hybrid plant that can be more robust and vigorous than the parent stock.

Seed from ornamental plants are easily spread by water. Viable purple loosestrife seed moving with water can travel through storm sewers as well as other man-made and natural drainage systems.

Purple loosestrife also is spread from ornamental plantings into aquatic areas by depositing lawn and/or garden clippings along creeks, drainages, or even in public landfills. Clippings from these plantings may contain viable seed and/or plant parts from purple loosestrife. Wind, birds, insects, and small animals also are responsible for dispersing seed originating from ornamental loosestrife.

Ornamental purple loosestrife can be replaced with Blazing Star (Liatris spp.), Fireweed (Epiobium angustifolium), Obedient Plant, (Physostegia virginiana), or Spike Speedwell (Veronica spicata).

What can I do?

The most important thing an individual can do is prevent the spread of purple loosestrife. If purple loosestrife is growing on your property or you know of other existing infestations, contact your local County Weed and Pest Supervisor. By taking the time to report purple loosestrife sites that you observe, a more effective control program can be initiated, thus preventing the continued spread of a destructive pest.

For further information...

S.D. Department of Agriculture Regulatory Services 445 East Capitol Anderson Building Pierre, SD 57501

Phone: (605) 773-3796

Or your county weed and pest supervisor

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